

# *Preventive Maintenance of Trombones*

an extract from the complete text  
PREVENTIVE MAINTENANCE OF THE INSTRUMENTS

by

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## THE INSTRUMENT

To be successful, music education depends to a high degree on the following factors:

- a talented student
- a good teacher
- a fine instrument in good condition

A good instrument encourages and stimulates the student, brings success and satisfaction to the teacher and is easy to maintain. It has fine tonal qualities, a long usable life expectancy and stays well within the limits of economical repair.

An inferior instrument discourages and frustrates the student as well as the teacher. Its playability is limited, and its tonal qualities are insufficient and disappointing. Soon it will also reach the state where certain repairs are not justifiable for economical reasons, or not possible because of inferior materials.

## PREVENTIVE MAINTENANCE

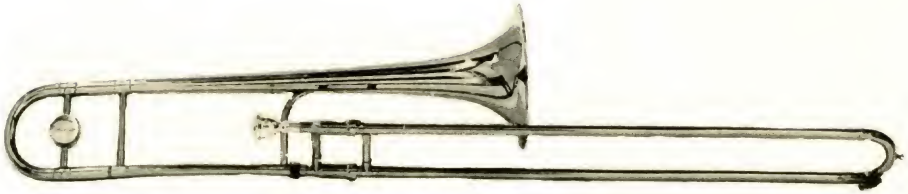
A musical instrument is an investment which deserves constant protection. Preventive maintenance is a means to protect this investment against unnecessary damage and premature wear and tear. The causes for unnecessary repairwork can be attributed in most cases to a combination of the following two major factors:

1. *The human element:*
  - a. Ignorance of the needs and peculiarities of the instrument.
  - b. Neglect of proper care for the instrument.
  - c. Well-meaning attempts to do repairwork by persons who are not qualified repairmen.
2. *The physical effects of:*
  - a. Moisture, causing oxidation and corrosion on metals, swelling of wood, etc.
  - b. Perspiration from hands and saliva, both caustic and detrimental to metals used in the construction of musical instruments.
  - c. Lack of lubrication.
  - d. Foreign matter of any kind inside the instrument.
  - e. Wrong handling of the instrument.

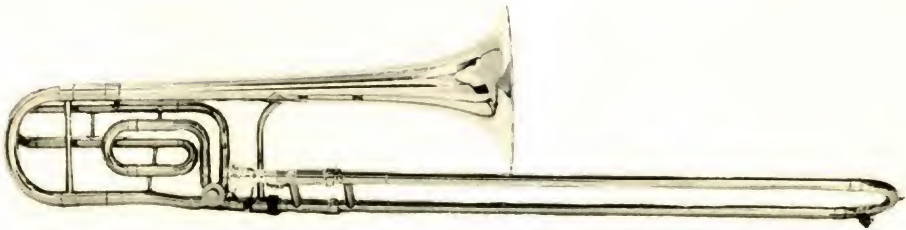
The necessity of a periodically carried out cleaning program is obvious, not only in the interest of maintenance, but also in view of general hygiene.

The subsequent suggestions for preventive maintenance begin with specifications and deal with cleaning, lubrication and proper handling of the instrument, its parts and the case.

# Slide Trombones



Trombone



Bass Trombone

## SPECIFICATIONS FOR SLIDE TROMBONE

<i>Pitch:</i>	A-440.
<i>Key:</i>	B-flat.
<i>Bore:</i>	Medium.
<i>Materials:</i>	
<i>Bell:</i>	Brass.
<i>Slide connection to bell:</i>	Nickel silver.
<i>Inside slides:</i>	Nickel silver alloy tubes.
<i>Outside slide:</i>	Brass or nickel silver with sturdily reinforced bow and water key.
<i>Mouthpiece receiver:</i>	Nickel silver.
<i>Tuning slide ferrules:</i>	Nickel silver.
<i>Slide lock:</i>	Important for slide protection.
<i>Braces:</i>	Sturdy three piece adjustable type, soft soldered.
<i>Finish:</i>	Highly polished and lacquered with clear lacquer, or silver plated highly polished (not satin).
<i>Mouthpiece:</i>	Top quality, silver plated.
<i>Tonal qualities:</i>	Intonation, ease of playing and tone quality will be factors in selection.
<i>Accessories:</i>	Music lyre and cleaning rod.
<i>Case:</i>	Fibre glass construction or three-ply veneer, keratol or drill cloth covering with nickel or brass plated trimmings, lined with good quality plush or flannel. Slide should be held without any stress or strain. Mouthpiece must be firmly secured or in separate compartment.
<i>Guaranty:</i>	By manufacturer and supplier against imperfections of materials and/or workmanship for a period of one year.



## CLEANING SLIDE TROMBONES

*Things to remember before cleaning:*

1. Trombone slides dent and spring easily; therefore, when cleaning inside and outside handslides, do not use a weighted string with cheesecloth attached (as is often recommended), nor try to pull or push anything else through the slides. Unless a person is thoroughly experienced in this cleaning method it is less risky and a great deal safer to do it as suggested below.
2. Do not clean the inside of tuning slides in any other way than described below for the same reason.
3. Do not try to clean the cork barrel by poking around with a screw driver or a similar object.
4. Do not use metal polish for cleaning the outside of lacquer finished instruments.
5. Never use force. If force seems to be necessary it is an indication that the instrument is in need of repair.

*After every playing:* Drain water from the instrument.

*Each week:*

1. Fill instrument with water and rapidly move slide in and out. Then run water through the slides and flush cork barrels. If needed repeat two or three times, depending on use and condition of the instrument (music room use versus football games, parades, etc.). Be careful as it is easy to spray water as you come into first position.
2. Wipe off the inner slides and apply a small dab of cold cream evenly to the stockings (the wider end of the slide). Then spray water on the slides and push them in and out to spread the cold cream. Remove excess of cold cream.
3. Remove and dry the tuning slide.
4. Apply vaseline evenly and sparingly to the tuning slide and replace it.

*Every six to eight weeks:*

1. Fill instrument with a solution of water and liquid detergent and move slide in and out. Then run solution through the slides and flush cork barrels as described above.
2. Rinse and dry instrument. Soak mouthpiece in solution.

3. Wipe off the inner slides and apply a small dab of cold cream evenly to the stockings. Then spray water on the slides and push them in and out to spread the cold cream. Remove excess of cold cream.
4. Remove tuning slide, fill half full with solution and shake well.
5. Rinse and dry tuning slide.
6. Apply vaseline evenly and sparingly to the tuning slide, then lap each side in individually by working the slide in and out while turning it in a rotating motion. Wipe off excess vaseline.
7. Clean the mouthpiece thoroughly inside and outside. Rinse and dry it.
8. Apply the same basic principle to bass slide trombones. Do not disassemble rotary valves, but have them oiled every three months in the repair shop unless you are thoroughly experienced in this procedure.

## LUBRICATION

<i>Parts:</i>	<i>Lubricant:</i>
Mouthpiece stem	Vaseline, sparingly
Hand slides	Cold cream and water, or Trombone oil, sparingly
Tuning slide	Vaseline, sparingly
Water key spring	Vaseline, sparingly

## FOREIGN MATTER

In order to avoid undesirable accumulation of food, chewing gum, candy and tobacco particles:

1. Before playing after eating, rinse mouth.
2. While playing, eating, drinking, chewing gum and smoking is taboo. It is incompatible with preventive maintenance.
3. After every playing drain water from the instrument.

## MOUTHPIECE

1. When putting the mouthpiece in the receiver, seat it properly with a slight twist. The widely spread bad habit of striking the mouthpiece causes damage to both the mouthpiece and instrument.
2. Remove the mouthpiece after each playing to avoid its becoming stuck. (See also under "Repairwork" 1. and "Case" 2.)



## HAND SLIDES

The extremely delicate nature of the very thin hand slides directs the preventive maintenance of slide trombones almost entirely towards the protection of the slides. Therefore:

1. When taking hold of the hand slides or the assembled trombone, make it a rule and develop the habit of doing so only by the outside slide brace; never by the inside slide brace, whether the instrument is equipped with a slide lock or not.
2. If the instrument is outside the case, keep hold of it at all times.
3. If you have to lay the instrument down, take it apart and lay it in the case. Do not lay a trombone across a chair, where it can easily be knocked down by a passer by, or across an open case, where the lid may fall down on the instrument.
4. When moving the tuning slide be careful to apply pressure only in the center of the braces in order to maintain balance and to avoid cocking through unequal motion of the two slide sides.

## REPAIR WORK

Repair work should be done only by qualified, experienced repair men in a well equipped repair shop with the proper tools. Otherwise a small repair job can easily become a big one. Therefore:

1. Be gentle in the attempt to remove a stuck mouthpiece, and if unsuccessful get an experienced repair man to do it. Never touch a mouthpiece with pliers.
2. Be gentle with the tuning slide. When it is stuck, send the instrument to the repair shop.
3. If instructions as given under "Cleaning" and "Lubrication" are followed, there will be neither a stuck mouthpiece nor a stuck slide.

## CASE

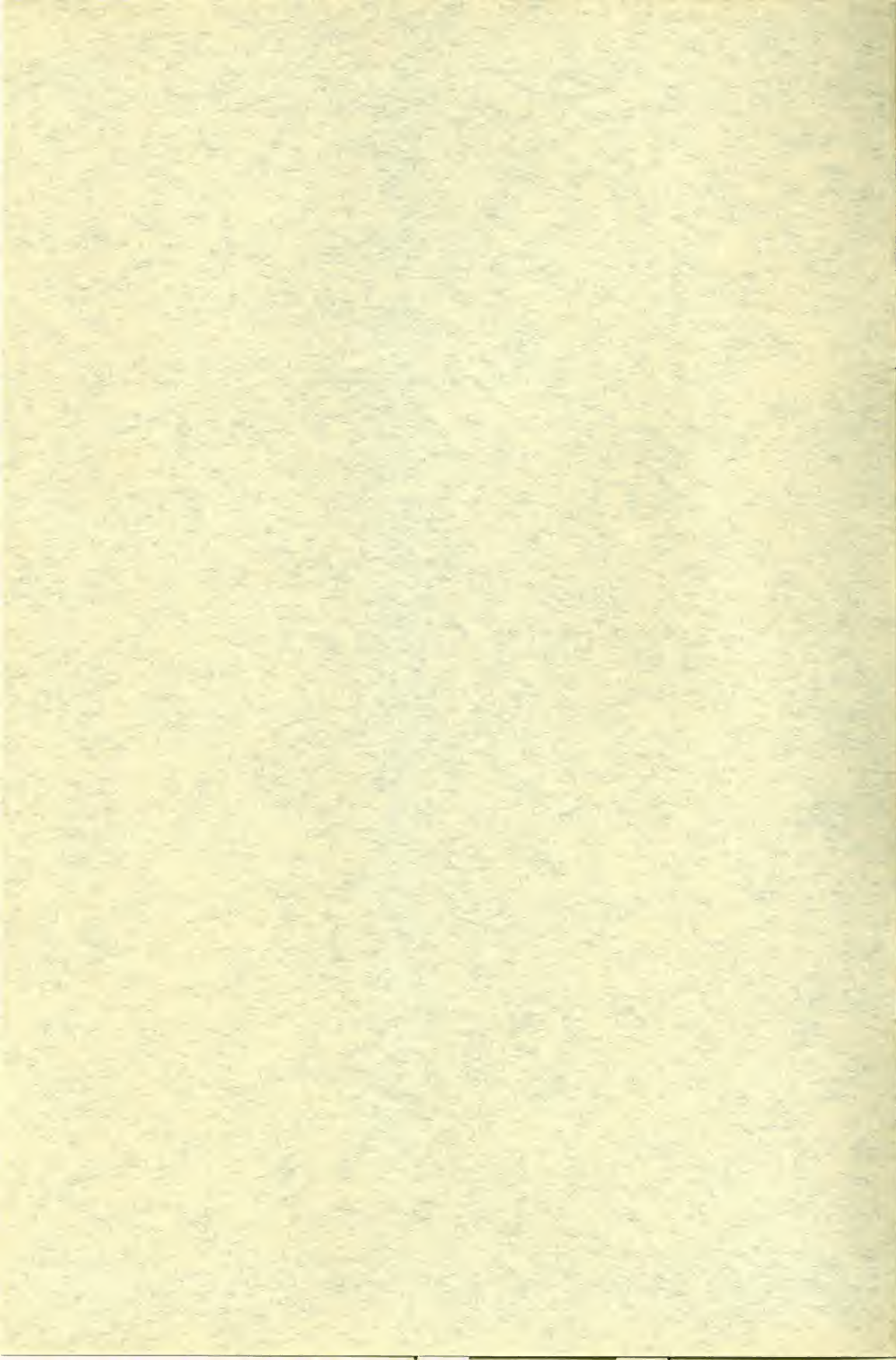
The case, supposed to protect the instrument, is often a contributing factor to its damage. Therefore:

1. The case should be properly blocked to hold the parts of the instrument well in place, not too tight and not too loose, so that no part can touch another one.

2. The mouthpiece should be firmly secured or kept in a separate compartment to make sure that it can not hit any part of the instrument. Much repairwork is caused by mouthpieces running loose in the case.
3. When opening a case and the lid is stuck on one end do not yank the case open. First free the stuck end, then lift the lid to avoid torsional force being applied to the slides by a twisted case lid.
4. The case should not be crammed with sheet music or personal belongings. When the lid is forced shut the strain may cause damage to the instrument.
5. The latches should be properly secured before picking up a case, otherwise the case lid may fly open and the instrument drop to the floor.

### **MOVING INSTRUMENTS**

1. Whenever instruments have to be moved from room to room, site to site or to the repair shop, move them only in their cases for best possible protection.
2. Before picking up an instrument in a case, make sure the latches are properly secured.





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